UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/468,617	12/21/1999	Robert J. Munger	FS-00464	3841

30743 7590 10/21/2004		EXAMINER	
WHITHAM, CURTIS & CHRISTOFFERSON, P.C.		CRAIG, DWIN M	
11491 SUNSET HILLS ROAD			
SUITE 340		ART UNIT	PAPER NUMBER
RESTON, VA 20190		2123	

DATE MAILED: 10/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/468,617	MUNGER ET AL.
	Examiner	Art Unit
	Dwin M Craig	2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _7-1-2004_ .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-10_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1,3-10_ is/are rejected.

7)☒ Claim(s) _2_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)		4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .	
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)		5) ☐ Notice of Informal Patent Application (PTO-152)	
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .		6) ☐ Other:	

DETAILED ACTION

1.   **Claims 1-10** have been presented for reconsideration in view of Applicant's amended

claim and arguments.

Response to Arguments

2.   Applicant's arguments submitted on 7-01-2004 have been fully and carefully considered.

The Examiner's response is as follows:

   2.1   Regarding Applicant's amendment to claim 3 to fix a minor typographical error:

   The Examiner thanks the Applicant for correcting the minor errors in dependent

Claim 3 and withdraws all objections to that claim.

   2.2   Regarding Applicant's request for Supervisory review of this case:

   Applicant stated:

   Accordingly, it is respectfully submitted that a supervisory
review under M.P.E.P. 707.02 is warranted and such a review is respectfully
requested.

   The Examiner wishes to apologize to the Applicant for the delay in the

completion of prosecution of Applicant's case. Further, the Examiner assures the Applicant that

the Examiner's Supervisory Patent Examiner, *Kevin Teska, SPE AU 2123,* has performed a

review of Applicant's case. *However,* the Examiner understands Applicant's frustration in

regards to the length of the prosecution of the case and respectfully states that if the Applicant

wishes to contact the Examiner's Supervisor that he do so at the following telephone number,

(703) 305-9704, *please note that this Art Unit will be moving to the Randolph Building of the*

Arlington Campus on 10/28/2004, the new phone number for Kevin Teska will be (571) 272-

3716.

2.3   Regarding the Applicant's response to the 35 U.S.C. 103(a) rejection of

independent Claim 1, specifically in regards to the Heath et al. reference:

Applicant argued:

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     Heath et al. is directed to simulation of an application program for
the purpose of developing an interface for the application when the
application is later developed. As previously pointed out in this regard, the
Abstract of Heath et al. notes that the disclosed method allows the design of
the program to be evaluated by users even before program code for the
simulated program is created.

     Therefore while Heath et al. may provide tables for such a simulation,
those tables are not, in fact, for an operator system interface'' which at
that point in time, does not exist. For the same reason, the definitional
tables cannot be provided as an input to a computing device other than a
computing device providing said operator system interface'' as the Examiner
recognizes and now relies upon the newly cited reference to Baum et al. for
such a teaching not only absent from Heath et al. but contrary to the
intended function thereof (e.g. to provide for evaluation of a program before
the program code is produced). In this regard, it is also respectfully
pointed out that it is improper to propose modification of a reference in a
manner, which would preclude its intended function. See, for example, In re
Gordon, 221 USPQ 1125 (Fed. Circ.1984).
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The Examiner asserts that the *Heath et al.* reference does disclose an operator interface

by combining the screens that are generated **(Figure 1 Item 9** *Application Simulator*) with the

programming of special functions of the keyboard **(Figure 4B Items 165, 167, 169 & 171).** The

Examiner respectfully asserts that the Applicant has not defined the exact meaning of the phrase

"operator interface" in the specification such that a reasonably broad interpretation of the phrase

would include the interface to a personal computer. The Examiner respectfully disagrees with the

Applicant that, *definitional tables cannot be provided as an input to a computing device other*

than a system providing said operator system interface. The Examiner asserts that it would be

well within the skill of an ordinary artisan to translate the definitional tables produced in the

Heath et al. reference into a form, which could be used by the apparatus in the *Baum et al.*

reference.

    2.4   <u>Regarding the Applicant's response to the 35 U.S.C. 103(a) rejection of</u>

<u>independent Claim 1, specifically in regards to the Baum et al. reference:</u>

    Applicant argued:

> Baum et al. clearly does not contain the teachings of suggestions, which the Examiner attributes to it and does not answer the claim recitations, which Heath et al. fails to answer. Specifically, Baum et al. does not teach or suggest a simulator at all, much less a ''simulator program'', especially a simulator program run on a computing device other than a computing device providing said operator system interface'' but provides a remote control unit for an instrument having a CRT display. The remote control unit has replaceable legend cards, which simulate the display of the instrument to which the remote control unit is connected. Further, no modification of the interface of the *instrument* is provided of contemplated by Baum et al. but only mimicry of the displays already provided.

    The Examiner respectfully submits that the *Baum et al.* reference was relied upon only to

teach the limitation of, *providing as an input to a computing device other than a computing*

device providing said operator interface. The Examiner further notes that, in this regard, the

Baum et al. reference does in fact teach this limitation. As to the motivation to combine the

Heath et al. reference with the *Baum et al.* reference that Applicant argued:

> Accordingly, it is respectfully submitted that the Examiner has again failed to make a prima facie demonstration of obviousness of any claim in the application. The combined teachings and suggestions of the references relied upon do not answer the subject matter of any claim and, moreover, the references do not contain the teachings or suggestions the Examiner has attributed to them. Baum et al. does not teach or suggest providing definitional tables as an input to a processor different from the processor providing the interface, does not use definitional tables to provide a display (but only the changeable legend cards - note, especially, column 22, line 45), does not modify the interface or definitional tables (but only emulates column 4, line 28) or mimics a portion of the instrument display using changeable legend cards and does not reprogram the interface using modified definitional tables and certainly does not justify yet a further action in this application. The processors of Baum et al. merely monitor changes in state of buttons and prioritize memory functions in regard to such changes of state. Therefore, Baum et al. teaches little, if anything, of

relevance to the present invention and certainly does not mitigate the
deficiencies of Heath et al. to answer the claims, even in regard to
deficiencies admitted by the Examiner.

The Examiner respectfully asserts that the cited mapping of the limitations in the 35

U.S.C. 103 rejections of applicants claims, disclose reasonably broad teachings, which read on

the Applicant's claimed limitations. The Examiner notes that the *changeable legend cards* as

disclosed in the *Baun et al.* reference are a method of, *providing, as an input to a computing*

device other than a computing device providing said operator system interface. The *changeable*

legend card, provides a way to program the operator interface on one computing device and the

input those setting to another computing device. As regards the motivation to combine the two

references the Examiner respectfully submits that an artisan of ordinary skill would use *"tables"*

as disclosed in the *Heath et al.* reference in combination with a *legend card* as disclosed in the

Baun et al. reference to easily transfer the operator interface settings from one computing device

to another. As to the limitation of simulating the operator interface, the Examiner notes that any

operator of any type of critical system, a nuclear power plant operator, an aircraft pilot, a

surgeon, would require that they be able to simulate how a new operator interface would perform

in order to be able to be able to anticipate any critical short comings *before* having to use the

operator interface in a *real life* situation. The Examiner respectfully submits that the Applicant's

arguments are unpersuasive and upholds the earlier 35 U.S.C. 103(a) rejections of independent

Claim 1.

2.5   Regarding Applicant's request for an interview:

The Examiner respectfully apologizes for not granting an interview at this time.

The Examiner, with the assistance of a primary in his art unit, *William Thomson,* was able to

perform an updated search which revealed, new art teachings, which could not be ignored. In

consultation with the Examiner's Supervisor, *Kevin Teska,* the decision was reached that it

would be unfair to the Applicant to conduct an interview until the Applicant had been given an

opportunity to see the resulting prior art references that were found in the updated search. After

the Applicant has received this **NON-Final** office action, the Examiner will be happy to schedule

a time for an interview with the Applicant. Again, the Examiner apologizes for not granting an

interview at this time.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.,* 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Independent **Claim 1** and dependent **Claims 3-10** are rejected under **35 U.S.C. 103(a)** as

being unpatentable over **Heath et al. U.S. Patent 4,845,665** in view of **Baum et al. U.S. Patent**

5,249,121.

3.1   As regards independent **Claim 1** the *Heath et al.* reference discloses, a method for

programming an operator system interface with a simulator **(Figure 1, Col. 2 Lines 45-58),**

providing definitional tables for an operator system interface, wherein said tables define specific

governing attributes of said operating system interface **(Figure 1, Col. 4 Lines 55-68, Col. 5-6,**

Col. 7 Lines 1-5), the simulator program performs display of a representation of the operator

interface based on the definitional tables **(Figures 2A, 4A Item 153),** allows the user to select

attributes from the definitional table **(Figure 4H, Figure 8D, Col. 19 Lines 19-67, Col. 20 Lines**

19-67, Col. 21-60, Col. 61 Lines 1-29, Col. 62 Lines 1-29), and modifying said definitional

tables to correspond to modifying of said representation to reprogram said operator system

interface **(Figure 4G).**

However, the *Heath et al.* reference does not expressly disclose, *providing as an input to*

a computing device other than a computing device providing said operator interface.

The *Heath et al.* reference discloses that there is a need in the art for better methods of

simulating operator interfaces **(Col. 2 Lines 20-33).** An artisan of ordinary skill would have been

motivated to search the related art of operator interfaces, to find a method of rapidly changing a

user interface while a simulation is running.

In the related art of operator interfaces, the *Baum et al.* reference teaches, providing as an

input to a computing device other than a computing device providing said operator interface. The

control console is a computing device where input is provided **(Figure 1A,** *User Interface*

Strategy **Col. 10 Lines 43-57),** with tables listing states of all the buttons on the *main* control

console **(Co. 18 Lines 52-68, Col. 19 Lines 1-6),** and providing to another *other* computing

device, *the remote console,* **(Figures 5-8, Col. 20 Lines 24-48)** changes can be made to the other

computing device, *remote console*, from the first computing device, *main console,* **(Col. 22**

Lines 40-52), and then used for the purpose of simulation **(Col. 26 Lines 43-62 and Col. 29**

Lines 26-30).

Thus, it would have been obvious, to one of ordinary skill in the art, at the time the

invention was made, to have combined the operator interface simulation methods of the *Heath et*

al. reference with the operator interface remote console configuration methods of the *Baum et al.*

reference because, the console that a surgeon uses can be configured in the way that best suits

that particular surgeon and therefore that surgeon will be able to concentrate his/her efforts on

the medical procedure at hand as opposed to having the manipulate buttons and switches on a

console that is complex to operate **(Baum et al. Col. 10 lines 43-57).**

3.2 As regards dependent **Claim 3** the *Heath et al.* reference discloses generating

operational code **(Col. 2 Lines 45-59).**

3.3 As regards dependent **Claims 4, 5, 6 and 7** the *Heath et al.* reference discloses the

ability of extracting an existing operator system interface, modifying the interface and storing the

changed interface by modifying the tables **(Figure 1, Col. 4 Lines 55-68, Col. 5-6, Col. 7 Lines**

1-5, Figure 4H, Figure 8D, Col. 19 Lines 19-67, Col. 20 Lines 19-67, Col. 21-60, Col. 61

Lines 1-29, Col. 62 Lines 1-29).

3.4 As regards dependent **Claim 8** the *Heath et al.* reference discloses running the

simulation on a personal computer **(Col. 3 Lines 60-68, Col. 4 Lines 1-4).**

3.5 As regards dependent **Claims 9 and 10** the *Heath et al.* reference does not

expressly disclose a method to demonstrate the functionality of the operator system interface or a

simulation for the purpose of training.

The *Baum et al.* reference discloses demonstration of an operator system

interface, which could also be used for training **(Col. 29 Lines 26-30).**

It would have been obvious, to one of ordinary skill in the art, at the time the

invention was made, to have combined the simulation methods of the *Heath et al.* reference with

the simulation methods of the *Baum et al.* references because the combination will make medical

procedures safer **(Col. 2 Lines 15-39).**

4.   Independent **Claim 1** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Lata**

et al. U.S. Patent 4,853,888 in view of **Zidon et al. U.S. Patent 5,807,109.**

4.1   As regards independent **Claim 1** the *Lata et al.* reference discloses, a method for

programming an operator system interface **(Figure 2),** providing as an input to a computing

device other than a computing device providing said operator interface **(Figure 1 Item 12),**

providing definitional tables **(Figure 5),** for an operator system interface, wherein said tables

define specific governing attributes of said operating system interface **(Figures 6 and 7),** the

simulator program performs display of a representation of the operator interface based on the

definitional tables **(Col. 5 Lines 51-56),** allows the user to select attributes from the definitional

table **(Col. 8 Lines 50-54),** and modifying said definitional tables to correspond to modifying of

said representation to reprogram said operator system interface **(Col. 13 Lines 2-47).**

However, the *Lata et al.* reference does not expressly disclose a simulator.

The *Zidon et al.* reference discloses a cockpit simulator **(Figures 2, 4 & 5)** with a

simulated multifunction display **(Col. 2 Lines 6-36).**

It would have been obvious to one of ordinary skill in the art, to have provided for a

programmable operator interface in the combat simulator of the *Zidon et al.* reference because,

this would provide for a flexible simulator that could be reconfigured in order to economically

simulate different models of aircraft as well as different configurations of the same aircraft.

5.   Independent **Claim 1** and dependent **Claims 3-8** are rejected under **35 U.S.C. 103(a)** as

being unpatentable over **Heath et al. U.S. Patent 4,845,665** in view of **Appleford U.S. patent**

5,270,931.

5.1   As regards independent **Claim 1** the *Heath et al.* reference discloses, a method for

programming an operator system interface with a simulator **(Figure 1, Col. 2 Lines 45-58),**

providing definitional tables for an operator system interface, wherein said tables define specific

governing attributes of said operating system interface **(Figure 1, Col. 4 Lines 55-68, Col. 5-6,**

Col. 7 Lines 1-5), the simulator program performs display of a representation of the operator

interface based on the definitional tables **(Figures 2A, 4A Item 153),** allows the user to select

attributes from the definitional table **(Figure 4H, Figure 8D, Col. 19 Lines 19-67, Col. 20 Lines**

19-67, Col. 21-60, Col. 61 Lines 1-29, Col. 62 Lines 1-29), and modifying said definitional

tables to correspond to modifying of said representation to reprogram said operator system

interface **(Figure 4G).**

However, the *Heath et al.* reference does not expressly disclose, *providing as an input to*

a computing device other than a computing device providing said operator interface.

The *Heath et al.* reference discloses that there is a need in the art for better methods of

simulating operator interfaces **(Col. 2 Lines 20-33).** An artisan of ordinary skill would have been

motivated to search the related art of operator interfaces, to find a method of rapidly changing a user interface while a simulation is running.

In the related art of operator interfaces for use in Aircraft cockpits, the *Appleford* reference teaches, providing as an input to a computing device other than a computing device providing said operator interface **(Figure 8 Col. 6 Lines 23-58)**. The *control console* is a computing device where input is provided **(Figure 11 Item 130)** and providing to another *other* computing device, *the remote console,* **(Figure 1 Item 12)** changes can be made to the other computing device, *remote console* **(Figure 11 Item 130)**, from the first computing device, *main console,* **(Figure 1 Item 12)**, and then used for the purpose of reconfiguration of a flight data computer for a specific airline **(Col. 1 Lines 26-45)**.

Thus, it would have been obvious, to one of ordinary skill in the art, at the time the invention was made, to have provided in a simulation the capability, as disclosed in the *Appleford* reference, to reconfigure an operator interface, *or in this case an aircraft navigation console,* so that the simulator could be used by different airlines who use different travel routes **(Col. 1 Lines 25-45)**.

5.2 As regards dependent **Claim 3** the *Heath et al.* reference discloses generating operational code **(Col. 2 Lines 45-59)**.

5.3 As regards dependent **Claims 4, 5, 6 and 7** the *Heath et al.* reference discloses the ability of extracting an existing operator system interface, modifying the interface and storing the changed interface by modifying the tables **(Figure 1, Col. 4 Lines 55-68, Col. 5-6, Col. 7 Lines 1-5, Figure 4H, Figure 8D, Col. 19 Lines 19-67, Col. 20 Lines 19-67, Col. 21-60, Col. 61 Lines 1-29, Col. 62 Lines 1-29)**.

5.4   As regards dependent **Claim 8** the *Heath et al.* reference discloses running the

simulation on a personal computer **(Col. 3 Lines 60-68, Col. 4 Lines 1-4).**

Allowable Subject Matter

6.   **Claim 2** is objected to as being dependent upon a rejected base claim, but would be

allowable if rewritten in independent form including all of the limitations of the base claim and

any intervening claims.

6.1   It is noted by the Examiner that none of the prior art of record discloses the

limitation of generating software specifications.

Conclusion

7.   This action is **NON-FINAL.** Claims 1, and 3-10 have been rejected. Claim 2 has been
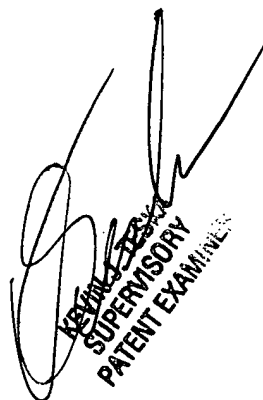
objected to.

7.1   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Dwin M Craig whose telephone number is 703 305-7150. The

examiner can normally be reached on 10:00 - 6:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Kevin Teska can be reached on 703 305-9704. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DMC